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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,527	06/25/2003	James P. Reilly	29920-72731	4090

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BARNES & THORNBURG  
11 SOUTH MERIDIAN  
INDIANAPOLIS, IN 46204

EXAMINER

HASHMI, ZIA R

ART UNIT PAPER NUMBER

2881

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/603,527	REILLY ET AL.	
	Examiner	Art Unit	
	Zia R. Hashmi	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                     | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 10-14 and 33 are rejected under U.S.C. 102(b) as being anticipated by Vestal ( US RE37,485 E ).

3. With respect to independent claims 1, 10, 33, and dependent claims 2 & 11-14, Vestal discloses a mass spectrometer ( Abstract, line 5 and col. 1, lines 12-14 ), comprising: a sample chamber configured to receive a number of samples for mass spectral analysis, the sample chamber being evacuated to a first pressure ( Abstract, lines 1-9, col. 1, lines 65-67, col. 2, lines 1-4 & 27-32, col. 14, claim 1, and Fig. 8 ); an ionization chamber ( col. 8, lines 57-60 and 97 in Fig. 6,7 ) secured to the sample chamber ( col. 7, lines 15-19, col. 6, line 59, col. 9, line 1, col. 10, lines 7-13, 74 in Fig. 5 & 97 in Fig. 6,7 ), the ionization chamber being evacuated to a second pressure, the second pressure being less than the first pressure ( col. 8, lines 10-26 & 40-56 ), and a gate valve having a door, the gate valve being interposed between the sample chamber and the ionization chamber, the door of the gate valve being positionable between an open position and a closed position, wherein (i) when the door is positioned in the open position the sample chamber is in fluid communication with the ionization chamber and (ii) when the door is in the closed position the sample chamber is substantially in fluid

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isolation from the ionization chamber ( col. 7, lines 15-28 & 61-64, col. 8, lines 3-9, 33-56, and 60,68 in Fig. 4-5 ). Vestal further discloses that his invention "provides a highly automated system for preparing, loading, and running samples by MALDI" ( matrix-assisted laser desorption and ionization ) mass spectrometry ( col. 1, lines 65-67 and Fig. 3 ), which includes a sample chamber ( col. 6, lines 45-55 ) and an ionization chamber, referred by him as ion source chamber ( col. 7, line 18 and 74 in Fig. 4,5 ), both of which are in fluid communication with the vacuum system ( 60, 74 and 82 in Fig. 5 ).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10, 15-32 and 34-41 are rejected under U.S.C. 103(a) as being unpatentable over Vestal ( US RE37,485 E ), in view of Ledford ( 5,037,611 ).

6. With respect to claims 2-9, 15-32, and 34-41, Vestal fail to disclose a tape secured to a take-up and supply reels carrying samples, or a method of advancing a number of samples on a tape to an ionization chamber for mass spectrometric analysis. Ledford, however, discloses a method of performing mass spectral analysis, the method comprising the steps of: positioning a number of samples for mass spectral analysis on a tape, sampling a first sample of the number of samples, advancing the tape, and sampling a second sample of the number of samples ( Abstract, lines 1-10, col. 1, lines

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9-19, 20-27 & 52-54, col. 2, lines 58-68. col. 3, lines 48-60, col. 5, lines 33-36, and Fig. 1 & 5 ). In their method, a first end of the tape is secured to supply reel, the second end is secured to a take-up reel, and the advancing step comprises rotating the supply of samples ( Abstract, lines 6-10, col. 3, lines 15-30, col. 5, lines 37-40 & 65-68, col. 6, lines 7-13, 168, 170, 172 in Fig. 5, Fig. 8, and 310-318 in Fig. 17 ), with means for disposing and injecting samples at atmospheric pressure ( col. 3, lines 21-31 and col. 4, lines 19-22 ), for mass spectrometric analysis ( col. 4, lines 4-8 ).

Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the methods and apparatus of Vestal and Ledford for rapidly performing automated MALDI mass spectrometric analyses, because Vestal teaches ( col. 2, lines 1-13 ) that processing a large number of samples to provide the required data has many potential applications, such as DNA sequencing on the scale required by the Human Genome Project, protein sequencing, and determination of the locations and nature of post-translational modifications of proteins.

### **Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Weinberg et al. disclose ( 5,959,297 ) mass spectrometers and methods for rapid screening of libraries of different materials, for characterizing compounds in combinatorial arrays with specific desired properties.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status


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information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact Electronic Business Center (EBC) at 866-217-9197 (toll-free).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zia Hashmi whose telephone number is (571) 272-2473. The examiner can normally be reached between 8.30 AM- 5 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477.

Zia Hashmi

May 4, 2004.

  
JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800